

U.S.S.N. 10/604,498

8

15-XT-6176 (GEMS-A 0130 PA)

**REMARKS**

In the Non-Final Office Action dated May 5, 2005, claims 1-26 are pending. Claims 1, 10, 16, and 18 are independent claims from which all other claims depend therefrom. Claims 1, 16, 18, 20, and 22 are herein amended. Claims 10 and 13 are allowed. Claim 20 stands allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Thus, claim 20 is herein rewritten in independent form to include all of the limitations of previously presented claim 18 and is now allowable.

Claim 16 stands rejected under 35 U.S.C. 102(e) as being anticipated by Marioni (USPN 6,538,353).

Marioni discloses a permanent magnet electric motor for circulation pumps of heating systems. The electric motor includes a rotor that is formed of metallic corrosive parts, as stated in col. 1, lines 19-24 of Marioni. Due to the corrosiveness of the rotor parts, the rotor is protected by a stainless steel jacket.

Applicants submit that Marioni fails to teach or suggest an x-ray tube rotor, a rotor formed of stainless steel, an x-ray tube rotor formed of stainless steel, and a sleeve that is disposed over the stated rotors. In Marioni it is stated that the rotor is formed of corrosive materials and there is no suggestion contained therein to allow one to believe otherwise. Although Marioni discloses a stainless steel jacket, Marioni fails to disclose a rotor formed of a non-corrosive material and a sleeve coupled to and over such a rotor.

Thus, Marioni fails to teach or suggest each and every element of claim 16. In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628. Therefore, claim 16 is novel, nonobvious, and is in a condition for allowance.

Claims 1-9, 11-12, 14-15, 18-19, and 22-26 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Klostermann (U.S. Pat. No. 5,056,126) in view of Takahata (U.S. Pat. No. 6,838,798).

U.S.S.N. 10/604,498

9

15-X-6176 (GEMS-A 0130 PA)

Amended claim 1 recites the limitations of an x-ray tube rotor that includes a shaft and an x-ray tube rotor core that is integrally formed as a single component with the shaft. A sleeve is directly coupled to and at least partially covers the rotor core.

Applicants submit that neither Klostermann nor Takahata teach or suggest a shaft integrally formed with a rotor core as a single component. The shaft 62 of Klostermann is not directly coupled to and is clearly a separate component from the rotor 72. In Takahata a shaft is not disclosed, but rather it is only stated that a shaft may be inserted into the hole 15. Thus, Takahata also fails to disclose the integral combination claimed. Since each and every element of claim 1 is not taught or suggested by the relied upon references, claim 1 is novel, nonobvious, and is in a condition for allowance. Also, since claims 2-9, 11-12, and 14-15 depend from claim 1, they too are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Amended claim 18 recites the formation of a non-corrosive rotor core having a slot integrally formed therewith as a single component. A sleeve is formed over the rotor core.

The Office Action states that Klostermann discloses a rotor core formed at least partially of a magnetic non-corrosive material, and in so doing refers to the support sleeve 71. Applicants submit that the support sleeve 71 is not part of the rotor 72, but is rather mounted on and supports the rotor 72. The rotor 72 is held in place on the support sleeve 71 via a plate 73. This is stated in col. 6, lines 46-49 of Klostermann '126. Thus, the support sleeve 71 is not a rotor core. However, for argument sake, even if one designates the support sleeve 71 to be a rotor core, the support sleeve 71 does not include a slot that is integrally formed therewith. Although the rotor 72 may include a slot, the rotor 72 is also clearly not integrally formed with the support sleeve 71 as a single integral component. Also, nowhere in Klostermann '126 is it stated that the rotor 72 is formed of stainless steel, but rather it is only stated that the rotor 72 is formed of magnetic steel and copper.

U.S.S.N. 10/604,498

10

15-XT-6176 (GEMS-A 0130 PA)

This is also admitted to on page 4 of the Final Office Action of November 17, 2004.

Although the Office Action relies on Takahata solely for the disclosure of a protective jacket, one can clearly see that Takahata also fails to teach or suggest a rotor core having a slot integrally formed therewith. Takahata, like Klostermann, fails to teach or suggest the formation of a rotor core that has a slot integrally formed therewith, which is covered by a non-corrosive sleeve.

Thus, Klostermann and Takahata fail to teach or suggest each and every element of claim 18, therefore, claim 18 is also novel, nonobvious, and is in a condition for allowance. Since claims 19 and 23-26 depend from claim 18, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Amended claim 22 recites the limitations of forming a rotor core, forming a sleeve over the rotor core, and inducing oxidation of an exterior surface of the sleeve through applied heat. The Office Action states that Klostermann and Takahata do not disclose oxidizing an exterior surface of a rotor assembly. Applicants agree. However, the Office Action states that the surface becomes naturally oxidized upon exposure to air. Applicants submit that although stainless steel may oxidize when exposed to air, this does not assure that the surface of a rotor core sleeve is fully oxidized prior to the installation within an x-ray tube. The oxidation process does not occur immediately, but rather takes some time. Also, the induced oxidation of the rotor sleeve prevents flaking and/or the formation of particulate, which may occur within an x-ray tube should the oxidation process not be performed or the sleeve surface not be fully oxidized. The induced oxidation process changes the surface of the rotor sleeve prior to installation within an x-ray tube assuring no particulate formation due to corrosion of the sleeve. Also, although stainless steel is resistant to rust, it is not rust proof. The oxidation process provides a surface or layer that does not rub or flake off and thus further prevents rust formation.

U.S.S.N. 10/604,498

11


15-XT-6176 (GEMS-A 0130 PA)

Thus, Klostermann and Takahata fail to teach or suggest each and every element of claim 22 and the element recited therein are not inherent or obvious to one skilled in the art. Besides neither of the references teaches or suggests the oxidation of x-ray tube rotor and/or sleeve surfaces. Claim 22 is novel, nonobvious, and is in a condition for allowance.

In light of the amendments and remarks, Applicants submit that all of the objections and rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, he is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

ARTZ & ARTZ, P.C.

  
Jeffrey J. Chapp, Reg. No. 50,579  
28333 Telegraph Road, Suite 250  
Southfield, MI 48034  
(248) 223-9500

Dated: August 3, 2005